

CALIFORNIA'S TOLLS PROVIDE SOME LESSONS

BY ERIC PRYNE
Seattle Times staff reporter

SANTA ANA CANYON, Calif. — It's 5:30 p.m., the height of rush hour in this notorious Orange County bottleneck, and eastbound traffic on the 91 Freeway is displaying a split personality.

Commuters in the four outside lanes are lurching home at maybe 10 mph, basking in the glow of their own brake lights.

Commuters in the two inside lanes are zipping past them at 70.

The difference? Money. The inside lanes on this 10-mile stretch of the 91 east of Anaheim are toll lanes, built in 1995 in what had been the freeway median. They offer commuters a choice: sit in traffic at no charge, or pay a premium — \$4.75 right now — to whiz past it.

A decade ago toll roads in the West were as rare as cowboys in pinstripes. Tolls were for those poor suckers on the New Jersey Turnpike.

Now tens of thousands of Southern California drivers pay them every day. The Seattle area could be next.

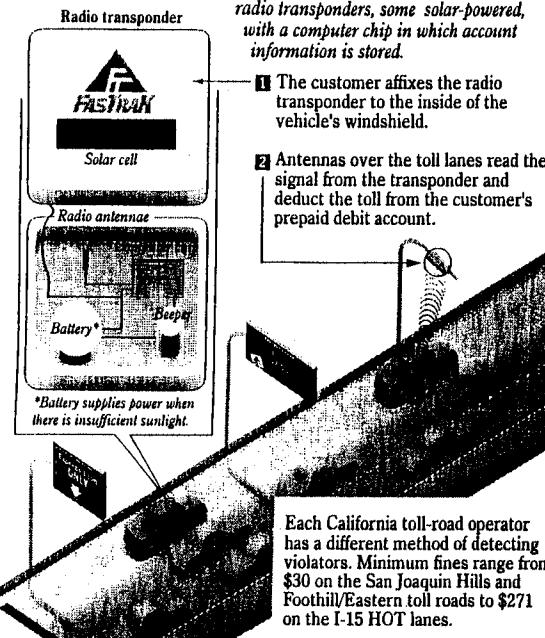
Regional leaders are searching for solutions to congestion and money to pay for them. There's more talk of tolls now than there has been in years.

Some King County officials have proposed tolls to help pay for replacements for the Alaskan Way Viaduct and Evergreen Point Floating Bridge. Referendum 51, the gaso-

PLEASE SEE **Tolls** ON A 17

Paying tolls without toll booths

Most Southern California toll-road customers have prepaid debit accounts and radio transponders, some solar-powered, with a computer chip in which account information is stored.



On the Orange County toll roads, cameras mounted over the toll lane photograph the license plates of violators. The license number is run through the Department of Motor Vehicles and a fine plus the toll fee is sent by mail to the violator's home. If the fine is not paid, the fine is doubled and added with the original toll fee to car's registration-renewal fee.

Source: Transportation Corridor Agencies

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TOLLS

CONTINUED FROM A 1

line-tax increase on the November ballot, includes money to study a new toll road bypassing Interstate 5. Plans to widen Interstate 405 include a possible HOT (high-occupancy toll) lane: a car-pool lane that solo drivers can use if they're willing to pay for the privilege.

Seattle-area drivers haven't paid tolls since 1979, when they were taken off the Evergreen Point Floating Bridge. Any move to impose them now would be a leap into the political unknown.

Orange County made that leap more than decade ago. Its transportation leaders turned to tolls because traffic was getting worse, and they didn't have enough tax money to do much about it.

Sound familiar?

The privately owned 91 Express Lanes through the Santa Ana Canyon is one of four toll projects that have opened in Orange and San Diego counties since 1993. Orange County governments built two toll roads from scratch, the 36-mile Foothill-Eastern and the 15-mile San Joaquin Hills. In San Diego, a local-government consortium converted an eight-mile car-pool lane on Interstate 15 into an HOT lane.

These projects offer several lessons for the Puget Sound region as it considers charging commuters by the trip.

First, the California toll lanes save their customers time. Each promised a faster trip than the toll-free competition, and each has delivered.

In independent surveys, users report average time savings of 15 minutes or more. Backups in the toll lanes are rare.

But the price can be steep. Operators strive to keep traffic flowing freely at all costs. If they charged less, they say, the lanes would quickly fill up.

Both the 91 Express Lanes and the I-15 HOT lanes in San Diego employ aggressive "congestion pricing," charging much more at peak hours. Commuters who use the 91 Express Lanes every weekday during the most expensive times pay more than \$40 a week. On I-15, where the one-way toll can be adjusted every six minutes, it has reached \$8 at times.

Most people who drive the toll roads don't use them every day.

"The big thing is, they offer people a choice," says Jon Ramirez, operations manager for the 91 project.

Another lesson: In California, a trip in a toll lane no longer requires a stop at a tollbooth. The 91 Express Lanes and I-15 HOT lanes don't even accept cash.

Instead, customers set up prepaid accounts and get small, plastic, personalized radio transponders to mount on their windshields. When they drive under antennae on gantries spanning the toll lanes, the transponder beeps twice and the toll is deducted from their account automatically.

Ken Small, a transportation economist at the University of California, Irvine, says it's not surprising that toll roads first found favor in Orange County. Its politics are conservative, anti-tax. It's also growing rapidly, and the toll roads had strong support from developers.

But many motorists who use the lanes seem to have a love-hate relationship with them.

"We use it because it's convenient," says Toni Long, who drives the Foothill/Eastern about three times a week. "But it's kind of a bummer to have to pay for it."

A 'rich man's freeway'?

Traffic is a source of great frustration and occasional humor in Corona, the fast-growing city of 122,000 that straddles the 91 just east of Santa Ana Canyon.

Once, William Ashe says, a local church posted the message "Jesus is coming soon" on its readerboard. Someone tacked up a handmade addendum: "Not if he's on the 91 freeway."

Ashe, a construction worker, moved to Corona 11 years ago, drawn, like many others, by its relatively affordable housing. He drives the 91 every day to work in Downey, 35 miles away.

"The 91 Parking Lot, we call it," he says.

The 91 Express Lanes were a godsend when they opened seven years ago, Ashe says. On Friday afternoons, when traffic is especially thick, he figures they cut 20 or 25 minutes off his commute.

But the tolls are too high, Ashe says. If his employer didn't reimburse him, he probably wouldn't be driving the toll lanes much.

"It's a rich man's freeway now," he says. "It's out of reach for the poor working guy."

Ashe's complaint is a common one. Critics call Southern California's toll roads "Lexus lanes," with some justification.

Surveys show toll-lane customers tend to come from higher income brackets. In San Diego, 60 percent of I-15 HOT-lane users have annual household incomes topping \$100,000, compared with just 29 percent of those stuck in the I-15 main lanes, according to a recent poll.

On the 91 Express Lanes, "what you're talking about is people spending \$8 a day to go back and forth to

California's toll roads on the Web

91 Express Lanes:
www.91expresslanes.com
San Joaquin Hills and Foothill/Eastern toll roads:
www.thetollroads.com
I-15 HOT lanes:
argo.sandag.org/fastrak/

work," says Riverside County Supervisor Bob Buster. "That's pretty discriminatory against the low-income. It's a caste system."

But the same San Diego poll that revealed the income disparity between HOT-lane users and nonusers also revealed I-15 commuters of all incomes support the toll project and consider it fair.

Janusz Supernak, a San Diego State University engineering professor who headed a three-year study of the I-15 project, says lower-income drivers may value the lanes even more than the wealthy when they do choose to use them.

The toll lanes provide a safety net for those likely to suffer greater economic consequences for being late to work or late to pick up a child at day care, he says.

A 'good thing'?

Toll-road backers also say those who don't use the toll lanes benefit from reduced congestion on the toll-free lanes. But it's hard to pin down what impact the toll lanes have had on traffic elsewhere.

In Orange County, a consultant hired by the agencies that run the Foothill/Eastern and San Joaquin Hills routes concluded last year that, without the toll roads, rush-hour slowdowns at chokepoints on other freeways and arterials would last much longer.

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Critics say such studies assume all the trips made in Orange County today still would have been made if the toll roads hadn't been built. Toll lanes, like any new road capacity, generate additional traffic as people rush to take advantage of improved conditions.

That happened on the 91, says Edward Sullivan, a transportation-engineering professor at Cal Poly who studied the Express Lanes for four years. Afternoon peak-hour delays on the main lanes dropped dramatically when the Express Lanes opened, he says; now they are back up to where they were before.

But traffic studies probably aren't as important as what commuters perceive. And most folks in Orange and San Diego counties appear to think the toll lanes have helped.

A majority of the I-15 main-lane commuters Supernak surveyed in late 1999 agreed the toll lanes had reduced congestion on the freeway overall. San Diego is so pleased with the HOT lanes that it plans to extend them another 12 miles.

Fifty-four percent of 2,000 Orange County adults who participated in a telephone poll co-sponsored by University of California, Irvine, last year said the Foothill/Eastern and San Joaquin Hills toll roads were "a good thing" for the county's transportation system.

Just 12 percent labeled them a bad thing. Twenty-five percent said the roads made no difference.

The 91 Express Lanes is Southern California's least-popular toll project. Its private owner has used a noncompete agreement it has with the state to block proposed improvements to the freeway's main lanes, provoking widespread resentment.

In the spring the company agreed to sell the lanes to Orange County's transit agency, a move that would nullify the noncompete agreement. Some want the prospective new owner to reduce tolls, even if it attracts more customers to the lanes and slows traffic.

Toll roads force choices like this.

But most Southern California commuters, like drivers everywhere, don't want to choose. They want a trip that's both fast *and* cheap, if not free.

Michael Blanco of Corona drives the 91 Express Lanes home from work several times a month, when it's important to get home to cook dinner or when his wife has a project for him.

Paying the toll saves him 15 to 30 minutes, he says.

But Blanco uses the toll lanes less now than he used to. He and his wife have a new baby, and they're on a tighter budget.

"The prices have gone up way too much," he says. "They're skyrocketing."

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Southern California's toll projects



San Joaquin Hills Toll Road

Description: New toll highway
Opened: 1996
Operator: San Joaquin Hills Transportation Corridor Agency (government)
Length: 15 miles
Exits/entrances along route: Yes
Cost: \$800 million
Toll collection method: Cash or prepaid account/transponder
Lowest off-peak toll*: \$2.50 (transponder), \$3 (cash)
Highest peak-hour toll*: \$2.75 (transponder), \$3 (cash)
Discount for car pools: No
What tolls pay for: Operations, construction debt, construction debt
Average weekday traffic: 80,000 vehicles
*for longest possible trip

I-15 HOT lanes

Description: 2 existing reversible car-pool lanes in freeway median that solo drivers pay toll to use
Opened: 1996
Operator: San Diego Association of Governments (government)
Length: 8 miles
Exits/entrances along route: No
Cost: \$10 million
Toll collection method: Prepaid account/transponder only
Lowest off-peak toll: 50 cents
Highest peak-hour toll: \$4, \$8 in unusually severe traffic
Discount for car pools (at least two people): Yes (free)
What tolls pay for: Operations, express-bus service
Average weekday traffic: 20,000 vehicles

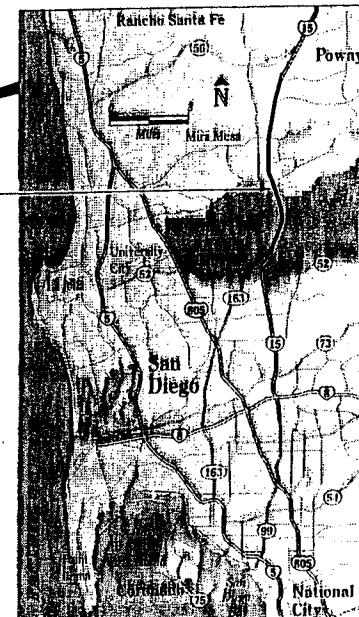
Source: California Private Transportation Co.; Transportation Corridor Agencies; San Diego Association of Governments

Highway 91 Express Lanes

Description: 2 toll lanes in each direction in median of existing freeway
Opened: 1995
Operator: California Private Transportation Co. (private)
Length: 10 miles
Exits/entrances along route: No
Cost: \$134 million
Toll collection method: Prepaid account/transponder only
Lowest off-peak toll: \$1
Highest peak-hour toll: \$4.75 eastbound, \$3.60 westbound
Discount for car pools: Yes (half-price)
What tolls pay for: Operations, construction debt, company profits
Average weekday traffic: 28,000 vehicles

Foothill/Eastern Toll Roads

Description: New toll highway
Opened: 1993-1999
Operator: Foothill/Eastern Transportation Corridor Agency (government)
Length: 36 miles
Exits/entrances along route: Yes
Cost: \$965 million
Toll collection method: Cash or prepaid account/transponder
Lowest off-peak toll*: \$4.50 (transponder), \$5 (cash)
Highest peak-hour toll*: Same
Discount for car pools (at least three people): No
What tolls pay for: Operations, construction debt
Average weekday traffic: 140,000 vehicles
*for longest possible trip



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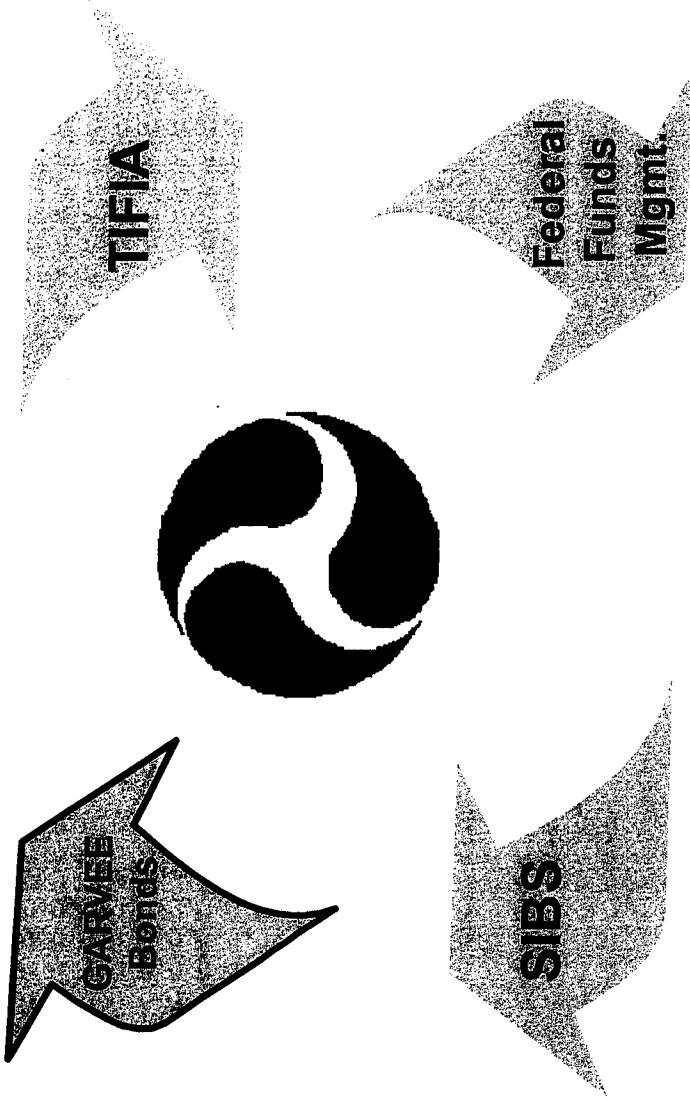
General Characteristics of Selected North American Toll Facilities

Toll Facility & Location	Year Opened	Type/Operating Details	Overall Length (miles)	Access	Open to Trucks?	Toll Rates/Mile	HO/Demand? Toll Class (fares with discounts?)	Average Revenue/Mile	Annual Vehicle Trips	Annual Toll Transactions	Revenue/Vehicle Trip	Revenue/Transaction	Revenue/Transit	
SR-91 Orange Co., CA	1995	Revenue maximization	10	Located in the median of the SR-91 freeway	End-points only	No	100% ETC	Variable rate for entire facility distance	\$0.10 - \$0.48	Yes	\$1.00 - \$4.75	Yes	\$21.3 M (2000)	\$2.1M
I-15 Fastrak San Diego, CA	1996	Throughput target	8	Two-lane, reversible facility in the median of I-15.	End-points only	No	100% ETC	Variable rate for entire facility distance	\$0.09 - \$0.50	Yes	\$7.5 - \$40 (up to \$80 windfall)	Free	\$1.2 M (2002)	\$0.15 M
Dulles Greenway Dulles, VA	1995	Revenue maximization	14	Private toll road. Four lanes with reversible options.	Multiple access / exit points	Yes	ETC, credit card & cash (no coins)	Flat rate between exits and/or plazas	\$0.05 - \$0.14	Yes	\$0.50 - \$2.00	No	\$19.8 M (2000)	\$1.4 M
SR-267 Dulles Toll Road Dulles, VA	1994	Revenue target (retirement of debt, O&M costs)	14	8 lane (4 lanes in each direction) limited access highway	Multiple access / exit points	Yes	ETC & cash	Flat rate between exits and/or plazas	\$0.02 - \$0.04 ¹	No	\$0.25 - \$0.50	Free	\$31.2 M (1996)	\$2.2 M
Harris County Toll Roads Houston, TX	1987	Revenue target (retirement of debt, O&M costs)	83	Limited access toll ring road	Multiple access / exit points	Yes	ETC & cash	Flat rate between exits and/or plazas	\$0.06 - \$0.18 ⁴	No	\$0.25 - \$1.00 (\$1.50 - \$2.00 for Ship Bridge)	No	\$217.8 M (2001)	\$1.7 M
New Jersey Turnpike NJ	1951	Revenue target (retirement of debt, O&M costs)	118	Dual toll facilities; trucks prohibited from using one of the two roads.	Multiple access / exit points	Yes ¹	ETC, cash & tokens	Flat rate between exits and/or plazas	\$0.03 - \$0.13 ²	Yes ²	\$0.45 - \$5.50	No	\$392.4 M (2000)	\$3.3 M
407 Express Toll Route (ETR) Toronto, Canada	1997	Revenue maximization	68	Limited access toll road	Multiple access / exit points	Yes	100% ETC	Per kilometer rate between exits and/or plazas	\$0.12 ³	No	\$0.46 - \$8.25 ³	No	\$244.4 M (2001)	\$3.6 M
E470 Denver, CO	1998	Revenue target (retirement of debt, O&M costs)	46	Limited access toll road. Partial ring road	Multiple access / exit points	Yes	ETC & cash	Flat rate between exits and/or plazas	\$0.15 - \$0.23 ⁴	No	\$0.50 - \$5.75	No	\$23.2 M (2000)	\$0.5 M
Homestead Extension (HET) FL	1974	Revenue target (retirement of debt, O&M costs)	47	Limited access toll road	Multiple access / exit points	Yes	ETC & cash	Flat rate between exits and/or plazas	\$0.06	No	\$0.25 - \$2.75	No	\$83.5 M (2001)	\$1.4 M
Polk Parkway FL	1998	Revenue target (retirement of debt, O&M costs)	25	Limited access toll road	Multiple access / exit points	Yes	ETC & cash	Flat rate between exits and/or plazas	\$0.12 - \$0.21 ⁴	No	\$0.24 - \$3.00	No	\$10.2 M (2001)	\$0.5 M
Southern Connector Greenville, SC	2001	Revenue target (retirement of debt, O&M costs)	16	Limited access toll road	Multiple access / exit points	Yes	ETC & cash	Flat rate between exits and/or plazas	\$0.09 - \$0.25 ⁴	No	\$0.50 - \$1.50	No	\$2.6 M (2001)	\$0.2 M
SR-73 San Joaquin Toll Road Orange Co., CA	1996	Revenue target (retirement of debt, O&M costs)	15	Limited access toll road	Multiple access / exit points	Yes	ETC & cash	Variable rates between exits and/or plazas	\$0.17 - \$0.20	Yes ²	\$0.50 - \$3.00	No	\$80.7 M (2001)	\$4.0 M
SR-261, SR-241 & SR-133 Foothills & Eastern Toll Roads Orange Co., CA	1993-1999	Revenue target (retirement of debt, O&M costs)	36	Limited access toll road	Multiple access / exit points	Yes	ETC & cash	Flat rates between exits and/or plazas	\$0.20 - \$0.25 ⁴	No	\$0.50 - \$4.50	No	\$83.5 M (2001)	\$1.5 M

¹Venue excluded from one of the two roadways in this dual roadway configuration
²Venue only for electronic toll collection
³In U.S. dollars / mile
⁴Variation due only to fixed tolls over different segment lengths

*venue Feasibility Study
 for WSDOT by Parsons Brinckerhoff July 2002

FEDERAL INNOVATIVE FINANCING OPPORTUNITIES



*Presentation to Transportation Infrastructure
Financing Alternatives (TIFA) Study
Seattle-Tacoma Washington, 26 September 2002
Jennifer R. Mayer
Innovative Finance Specialist,
FHWA Western Resource Center, San Francisco*



PRESENTATION OUTLINE

- Background on Federal Innovative Finance
- State/Federal Credit Options
- GARVEES, RVees, and Other Debt Vehicles
- Direct Federal Credit: TIFIA (Transportation Infrastructure Finance and Innovation Act)
- Toll Provisions on Federal-Aid Projects
- Summary: Matching Tools to Projects



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HISTORY: HOW IT USED TO WORK

- Suppose a state received \$10 million per year and wanted to start a \$50 million project
- How would that have worked in 1969?



PROBLEMS WITH TRADITIONAL SYSTEM



- Can't start without saved up obligation authority
- Can't use Federal funds to pay debt service
- No way to loan Federal-aid funds, even if someone is willing to pay you back
- Have to match with State cash only
- Result:** States had to manage Federal capital funds differently than state funds



TEST & EVALUATION PROJECT #45

- 1st TE project to address financial issues
- Permits FHWA to waive regulations on a pilot basis
- Still active
- Some techniques have become part of regular program



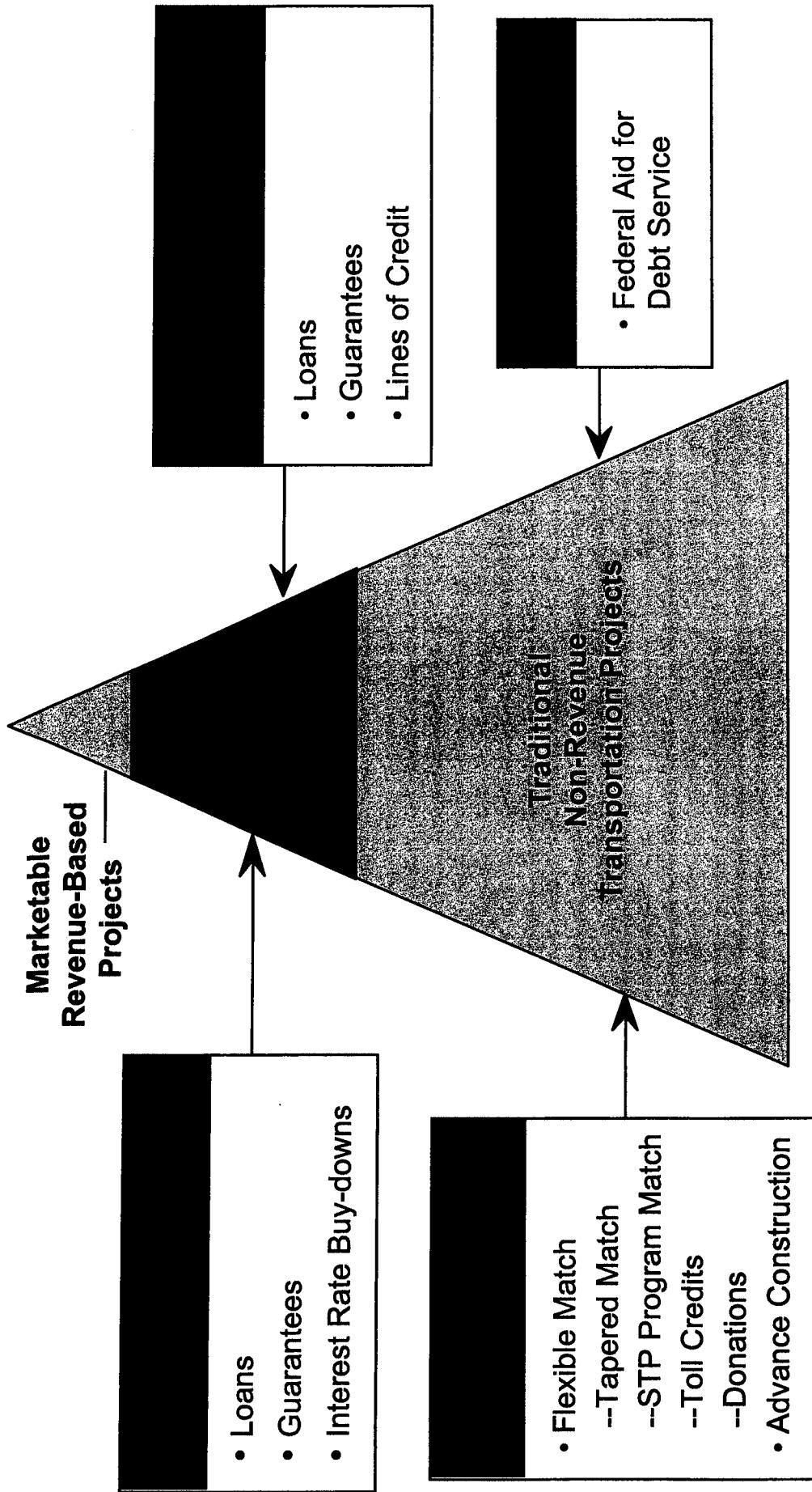
INNOVATIVE FINANCE

- **Definition:** Techniques that supplement traditional grant reimbursement (pay-as-you-go) financing methods
- **Goals**
 - Reduce project costs
 - Leverage federal funds
 - Expedite project completion
- Note bene: **Does not involve additional revenue!**

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Federal Project Finance Tools for Surface Transportation Infrastructure



STATE INFRASTRUCTURE BANK (SIB): DEFINITION



- A revolving fund capitalized with Federal-aid highway dollars that provides loans and other forms of credit assistance to surface transportation projects
- May be leveraged by issuing bonds against future loan repayments
- WA's SIB only contained initial seed funding (\$3.0 million) plus match

SECTION 129 LOANS



- Title 23, Section 129, also permits States to lend Federal-aid highway funds to any eligible project
- Loans must be repaid with dedicated non-Federal source
- This provision could be used to set up revolving funds



WHAT IS A GARVEE?

- A GARVEE (Grant Anticipation Revenue Vehicle) is type of grant anticipation debt, repaid directly by Federal-aid funds
- An "eligible debt financing instrument" can be any "bond, note, certificate, mortgage, lease or other debt financing instrument issued by a state or political subdivision or a public authority," for a Title 23 project

DEBT BASED ON FEDERAL-AID REIMBURSEMENTS (RVees)



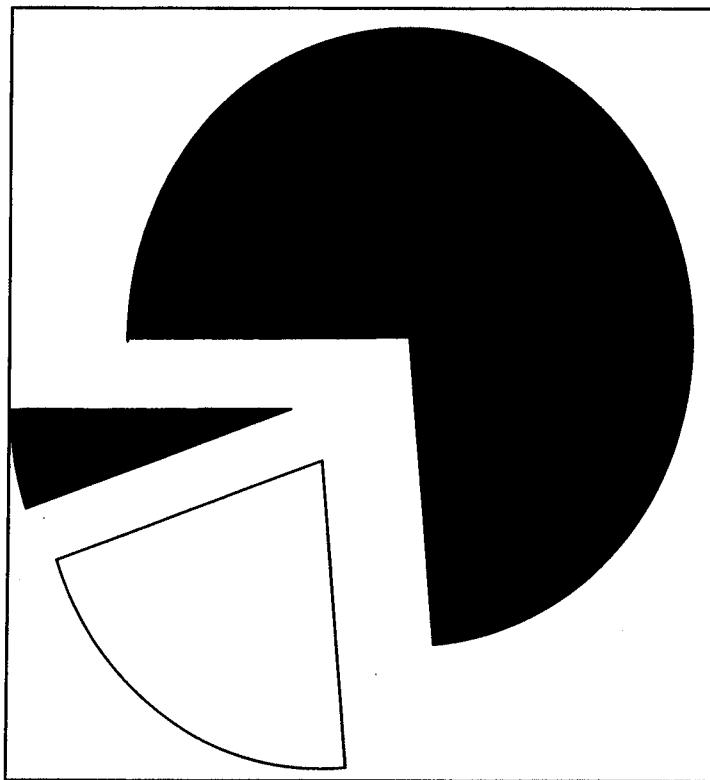
- States have never been prevented by Federal regulations from issuing grant anticipation debt secured by a pledge of construction reimbursements from the Federal-aid highway program
- Such issuances are limited only by state laws and/or capital market acceptance of any risks involved

WHERE DO GARVEES FIT IN?



- **Non-Transportation
Grant Anticipation
Debt**

- Grant Anticipation
Debt Backed by Future
Construction
Reimbursements
(Reimbursement
Vehicles, or RVees)**
- **GARVEES (Debt Service
Reimbursement)**



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WHY ARE BOTH RVEES AND CARVEES INCREASING?



- **Partial Conversion of Advance Construction:** Procedure allowed states to claim partial reimbursement for construction of eligible projects
- **TEA-21:** Increased amount and predictability of funding
- **Low Interest Rate Environment:** Led to more issues, especially in states with high construction inflation rates

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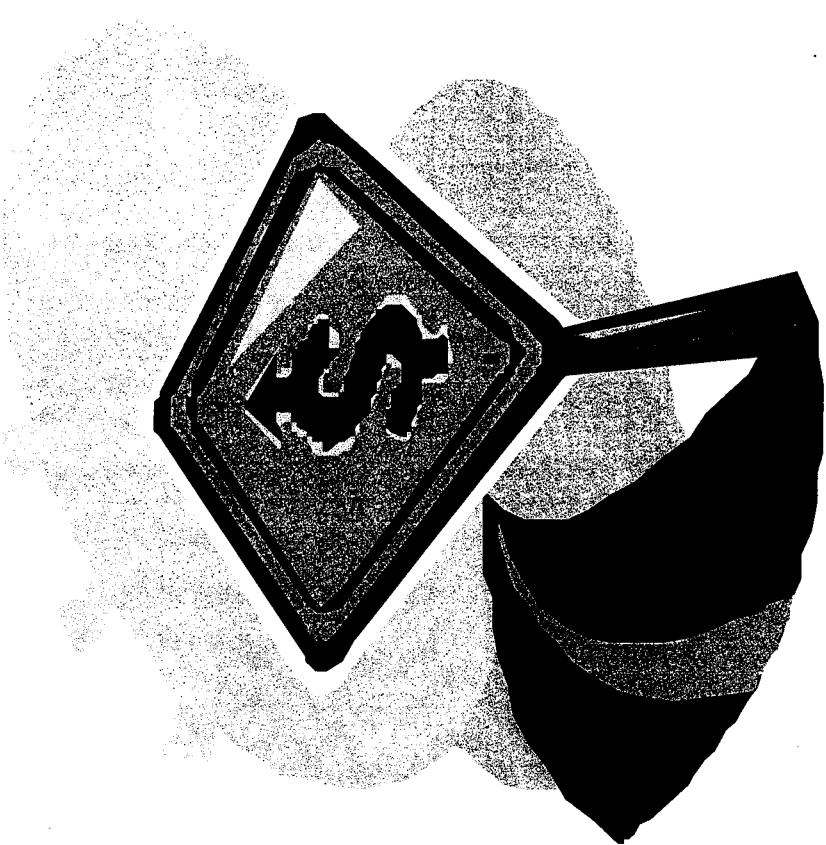
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POTENTIAL ADVANTAGES

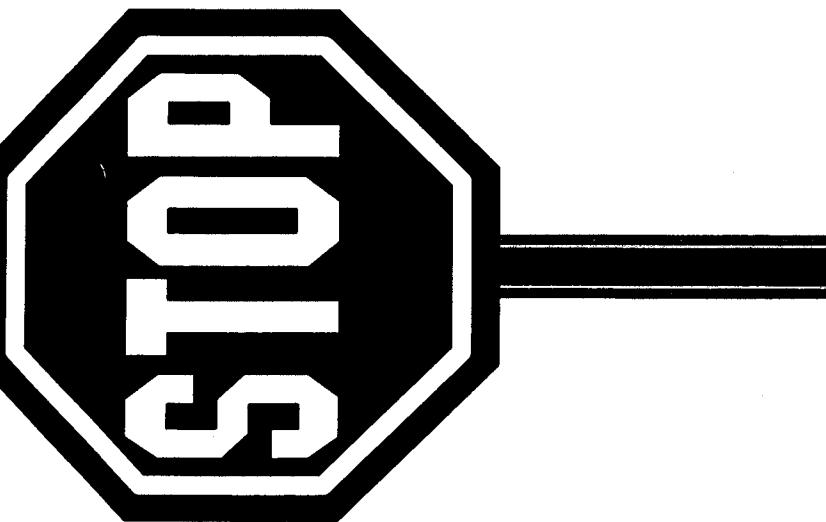
- **Better Funds Management:**
Match payment to useful life of asset
- **Accelerated Construction Program:** (leading to)
 - Avoided Costs
 - Accelerated Benefits (safety, economic)



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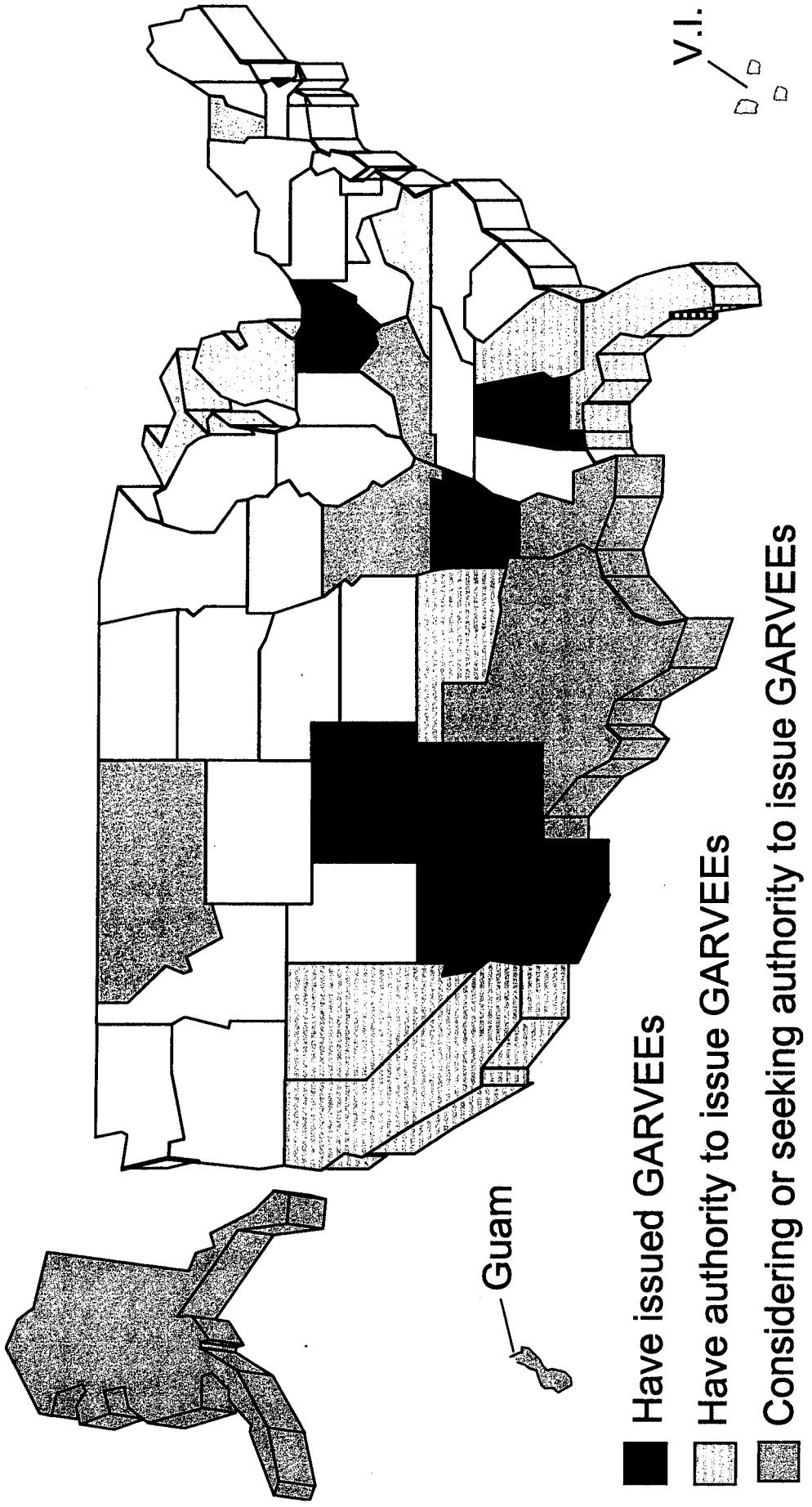
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LIMITATIONS: SPEED BUMPS [OR ROAD BLOCKS]



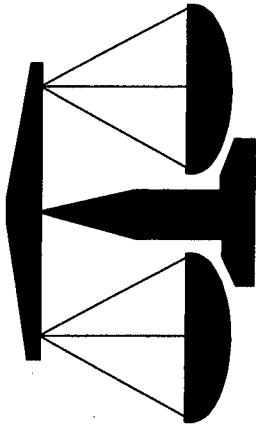
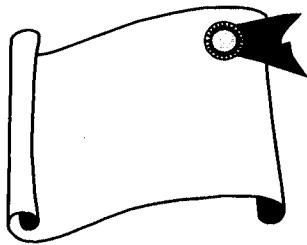
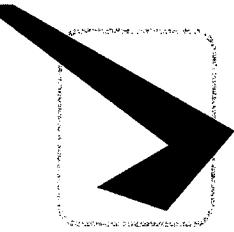
- **Fiscal:** Is money really the problem? And is revenue available to repay the debt?
- **Administrative:** Can DOT oversee more projects? Can contractors construct more projects?
- **Legislative:** Can DOT obtain legal authority?

GARVEES: STATE PARTICIPATION



V.I.
D
D

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Have Issued GARVEES*

Arizona

Alabama

Arkansas

Colorado

New Mexico

Ohio

Have Authority to Issue**

California

Florida

Georgia

Michigan

Nevada

Oklahoma

Texas

Virginia

Virgin Islands

Considering or Seeking Authority

Alaska

Guam

Kentucky

Louisiana

Missouri

Montana

Vermont

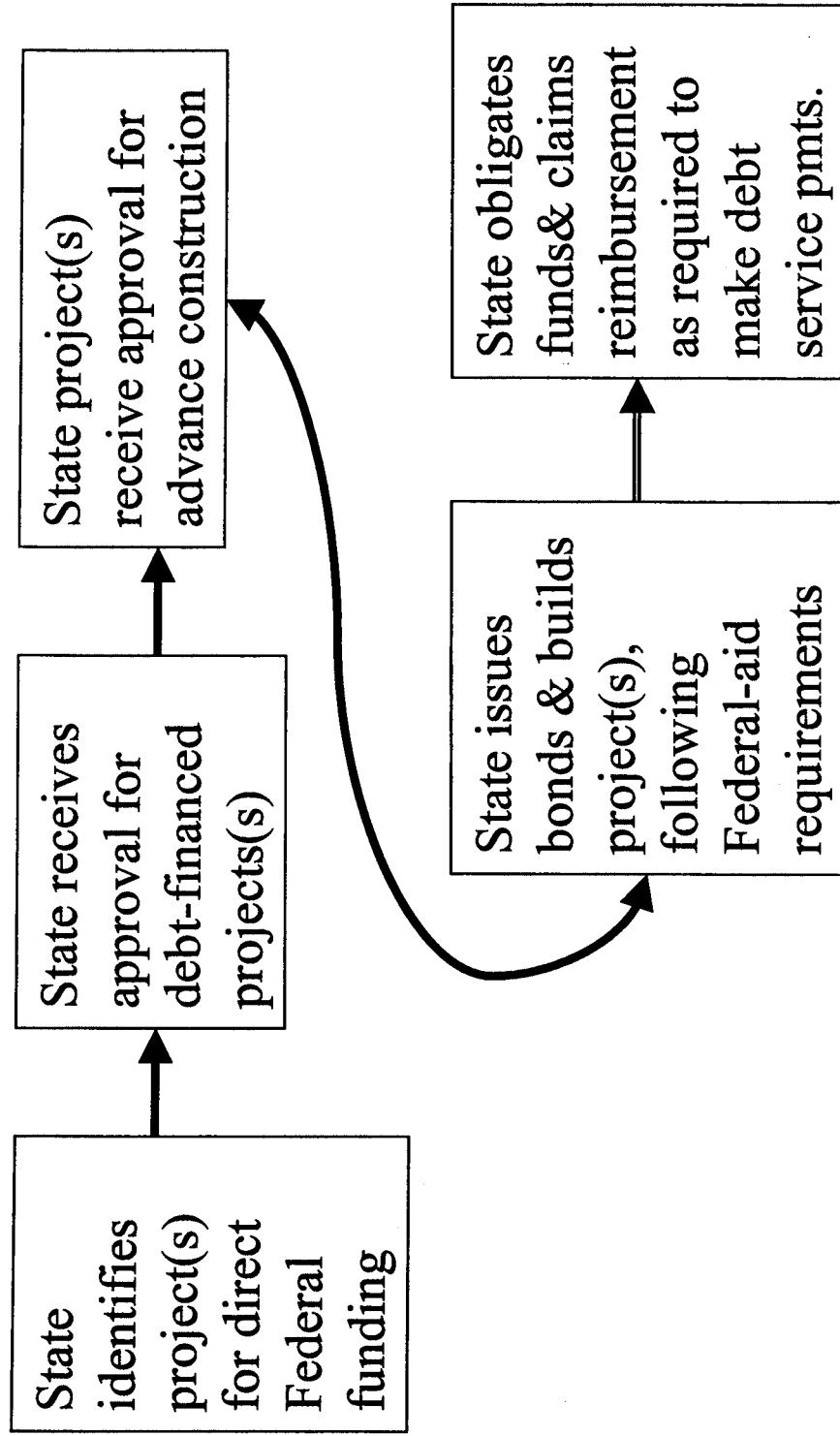
Texas

Virginia

* Includes only bond issues expected to receive debt service reimbursements under Section 122 of Title 23.

** This list may not be comprehensive. Some states do not need enabling legislation.

GARVEE MECHANICS



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Comparison: Regular Project VS. GARVEE Debt-Financed Project



	Standard Federal Aid Project	Debt-Financed Project under Section 122 (GARVEE)
Total Project Cost Eligible for Federal Reimbursement	Total eligible construction costs	Total debt service (including principal, interest, and issuance) for bond issue to finance eligible Federal-aid project
Basis for Reimbursement	Construction expenditures	Debt service payments
Timing of Reimbursement	Period of construction (3-5 years, typically)	Term of debt (5, 10, 15 or even 20 years)
Federal Requirements	All applicable	All applicable
What Shows on STIP?	Total funds needed to reimburse construction expenditures during fiscally-constrained years of STIP	Total funds needed for debt service during fiscally-constrained years of STIP

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Comparison: RVee Debt Structure VS. GARVEE



	Reimbursement Vehicle "RVee" Structure	Debt-Financed Project under Section 122 (GARVEE) Structure
Total Project Cost Eligible for Federal Reimbursement	Total eligible construction costs only (not interest and issuance)	Total debt service (including principal, interest, and issuance) for bond issue to finance eligible Federal-aid project
Basis for Reimbursement	Construction expenditures on Federally-eligible projects	Debt service payments on Federally-eligible projects
Timing of Reimbursement	Period of construction (3-5 years, typically) but many states may stagger projects over life of debt issuance	Term of debt (5, 10, 15 or even 20 years)
Federal Requirements	Applicable to any project for which Federal reimbursement is received	Applicable to all projects financed with GARVEEs

WHAT THE FEDERAL ROLE ISN'T UNDER EITHER STRUCTURE



□ FHWA does NOT:

- Review or approve interest rates, backstops, terms, or anything else regarding the debt instruments themselves**
- Guarantee payment of bonds. There is no Federal guarantee of payment, and any pledges or obligations must come from state legislation and/or executive authority**

TIFIA CREDIT ASSISTANCE: DEFINITION



- TIFIA (Transportation Infrastructure Finance and Innovation Act) credit assistance involves direct Federal loans, lines of credit and loan guarantees to major surface transportation projects
- Unlike SIBS, GARVEES, and Section 129 loans, TIFIA projects are designated solely by the U.S. Department of Transportation (based on Congressional criteria).

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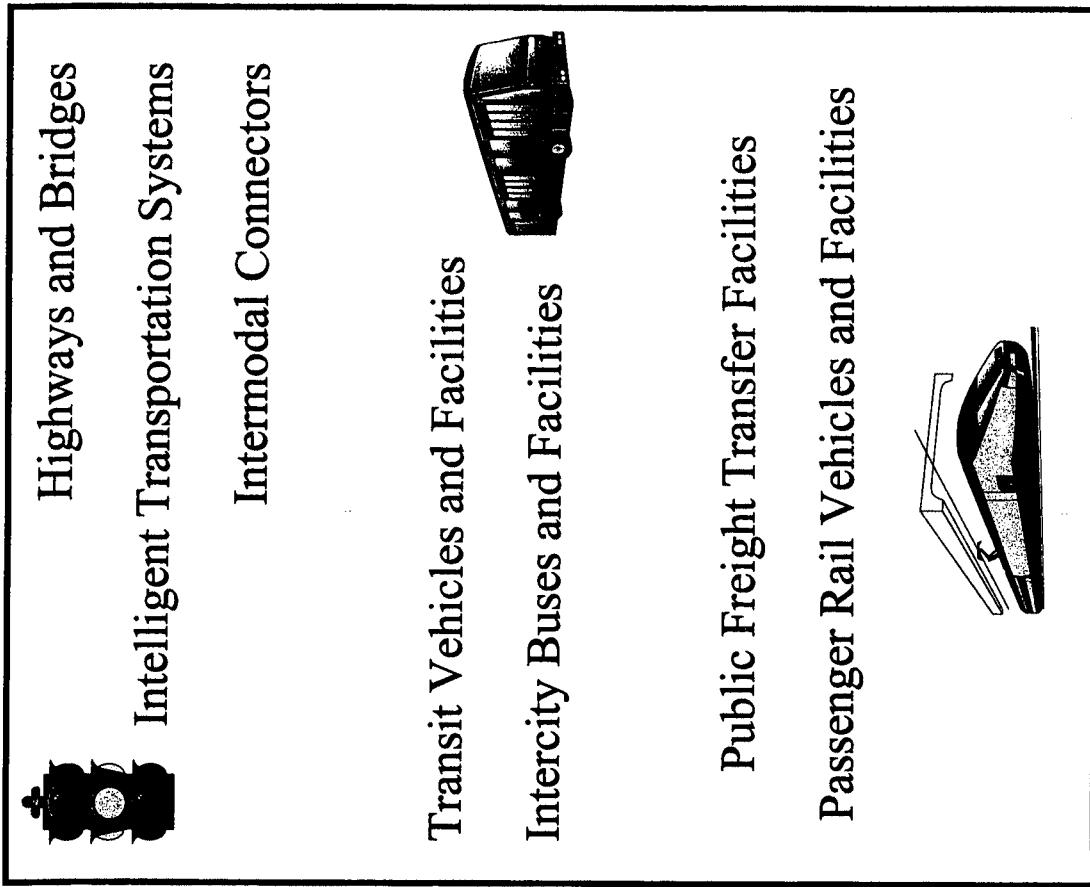
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TIFIA PROGRAM: BACKGROUND

- Strategic goal -- to leverage limited Federal resources and stimulate private capital investment in transportation infrastructure by providing credit rather than grants to projects of national or regional significance.

Eligible TIFIA Sponsors and Projects





TIFIA: REQUIREMENTS

- Mega surface transportation projects (\$100M generally, \$30M ITS)
- TIFIA contribution limited to 33 percent
- Investment grade rating on debt
- Dedicated revenues for repayment
- Applicable Federal requirements (Civil Rights, NEPA, Uniform Relocation Titles 23/49)
- State/local approvals (transportation plans and permits)

TIFIA: STATUTORY SELECTION CRITERIA

- Consumption of budget authority
- Reduction of federal grant assistance
- Use of new technologies

- Creditworthiness
- Project acceleration

- Environmental benefits
 - National or regional significance
- Private Participation



TIFIA: KEY ASPECTS

- Unlike GARVEES, SIBs, and Section 129 loans, TIFIA involves no redirection or use of State's share of Federal-aid funding ("on top of" existing Federal funds)
- TIFIA interest rate is typically higher than state-only borrowing would be
- Competitive process -- project sponsors must submit proposals, including financial plans, to DOT for consideration.
- TIFIA web site – <http://tifia.fhwa.dot.gov>

TIFIA Meeting

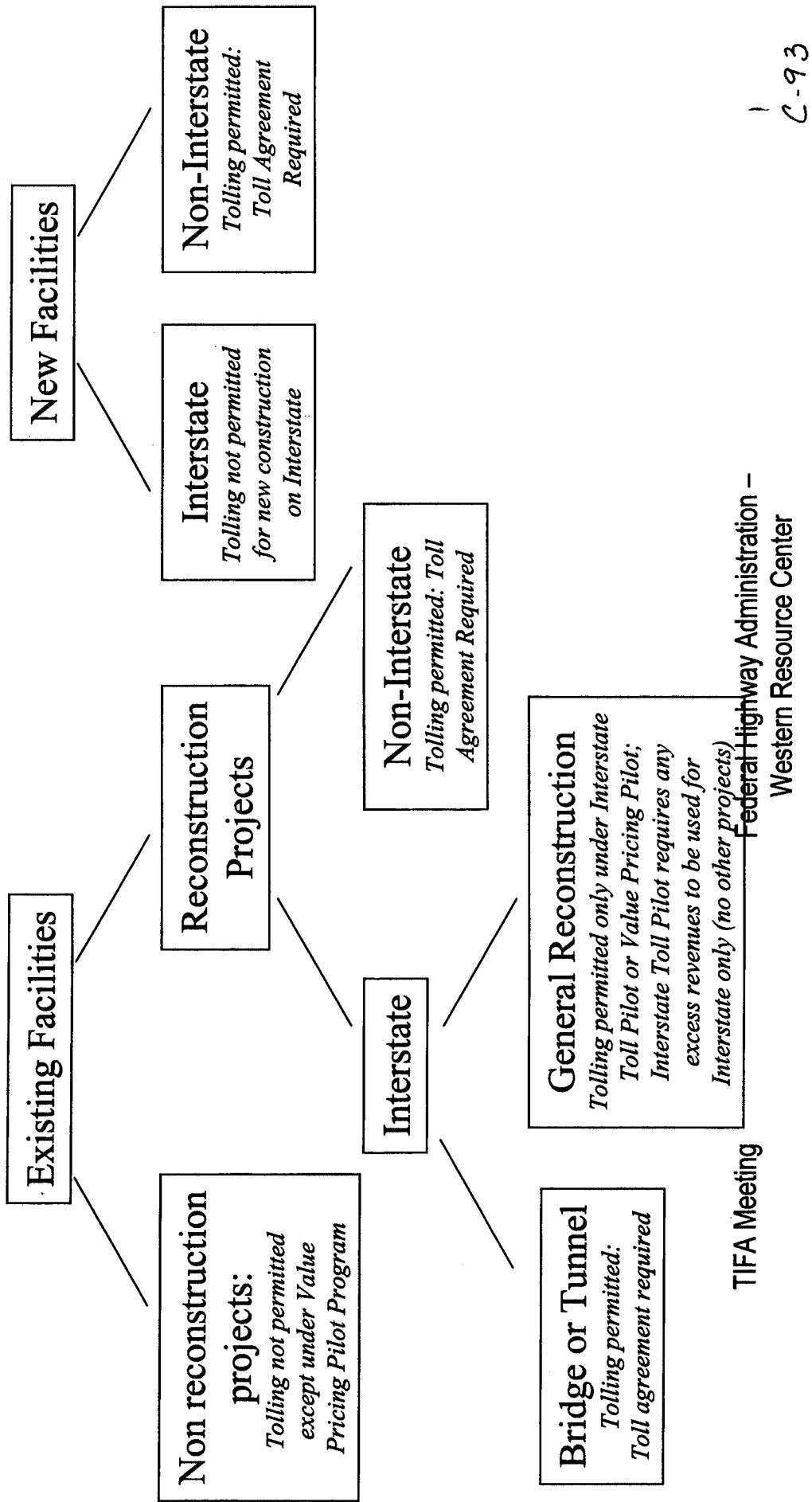
Federal Highway Administration –
Western Resource Center



OTHER INNOVATIONS

- Innovative finance has made it easier for private sponsors to contribute to projects (e.g., private funds can be used as match for Federal-aid funding)
- Toll facilities can now receive Federal funds on the same basis as other facilities (as long as they meet other requirements)

THE TOLLING PROVISIONS TREE



MATCHING TOOLS TO PROJECTS

	SIZE	REQUIRES REVENUE POTENTIAL?	PRIVATE SPONSOR ELIGIBLE?	GENERALLY APPLICABLE TO:
Flexible Match to Federal-Aid Funds	All sizes	No	Yes	Any project which has potential for nontraditional matches.
GARVEES	Generally \$10 million or greater	No	No	Long-term capital projects with broad support
SECTION 129	Depends on available funds	Yes	Yes	Long-term capital projects with non-Federal revenue potential
SIB	Depends on capitalization	Yes (either Federal or other)	Yes	Regionally and locally-significant projects with some form of dedicated revenue source
TIFIA	Minimum \$100 million or 1/3 of state apportionments	Yes	Yes	Major projects of national significance

RESOURCES FOR MORE INFORMATION



- FHWA innovative finance home page:
www.fhwa.dot.gov/innovativefinance
- Innovative Finance Clearinghouse:
www.innovativefinance.org
- Jennifer Mayer, Western Resource Center (415)744-2634,
jennifer.mayer@fhwa.dot.gov,

GARVEE and Construction Reimbursement Debt Issuance

as of 9/30/2002

State	Date	Type of Project	Rating	Amount	Projects Financed		Private Sector	Borrower	Term & Periods	Final Maturity
					Number of Projects	Total Amount				
Grant Anticipation Revenue Vehicles (GARVEEs)										
NM	Sep-1998	\$100.2	A3/A-/1na	New Mexico State Route 44 (now U.S. 550)			Federal-aid debt service reimbursement	Bond insurance		
NM	Feb-2001	\$18.5	same	same			same	same		
OH	May-1998	\$70.0	Aa3//AA-/AA-	Various projects including Spring-Sandusky and Maumee River Improvements				Moral obligation pledge to use state gas tax funds and seek general fund appropriations in the event of Federal shortfall	1	2009
OH	Aug-1999	\$20.0	Aa3//AA-/AA-	same				same		
OH	Sep-2001	\$100.0	Aa3//AA-/AA-	same				same		
AR	Mar-2000	\$175.0	Aa2/AA/1na	Interstate Highways			Federal-aid debt service reimbursement	Full faith and credit of the state & motor fuel taxes		
AR	Jul-2001	\$185.0	Aa2/AA/1na	same			same	same		
CO	May-2000	\$537.0	Aa3//AA/AA	28 high-priority corridor projects; Any project financed whole or in part by Federal- funds: T-REX in metro Denver			Federal-aid debt service reimbursement	Other state funds, including highway users trust fund and 10 percent of the state sales tax	3	2016
CO	Apr-2001	\$506.4	same	same						
CO	Jun-2002	\$208.3	same	same						
AZ	Jun-2000	\$39.4	Aa3//AA-/AA-	Acceleration of freeway projects/Federally-eligible projects			Federal-aid debt service reimbursement	Certain subaccount transfers	1	2008
AZ	May-2001	\$142.9	same	same			same	same		
AL	Apr-2002	\$200.0	Aa3/A/1na	County Bridge Program			Federal-aid debt service reimbursement	All Federal construction reimbursements; bond insurance obtained		
SC	Mar-1999	\$200.0	Aaa/AAA/AAA	Acceleration of Interstate projects and Federally eligible projects			Full faith and credit of state: rating based on this, not Federal-aid funding	Full faith and credit of the state, plus motor fuel taxes		
SC	Apr-2001	\$350.0	Aaa/AAA/AAA	Same				Same		
Total GARVEEs		\$2,852.7								

*Number of reauthorizations spanned by debt, assuming avg. 6 yr reauthorizations.

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GARVEE and Construction Reimbursement Debt Issuance

as of 9/30/2002

as of 9/30/2002

Primary Security	Projects Financed	Baseline	Term & Periods	Final Maturity
100% Equity	100% Equity	100% Equity	100% Equity	100% Equity

Construction Reimbursement Vehicles (RVees)

GA	\$300.0					
MA	\$1,200.0	AA	Central Artery & Tunnel	Federal construction reimbursements	10 cents per gallon from state's gas tax receipts	2016
MI	\$400.0	AA-	Build Michigan II (Various major rehabilitation, reconstruction, and new construction projects)	Federal Construction reimbursements	None	
MS	\$200.0	/AAA	Four-lane Highway Program	Federal Construction reimbursements	Various state fuel taxes, certain state highway funds and motor vehicle registration fees, among other sources	1
VA			Six-year capital improvement program	Federal Construction reimbursements	Legally-available transportation trust fund revenues and other funds designated by the general assembly	2
Total			\$400.0 /AA			2010
			\$2,500.0			

*Number of reauthorizations spanned by debt, assuming avg. 6 yr reauthorizations

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ANTICIPATED FUTURE USE OF FEDERAL-AID FUNDS FOR GARVEE DEBT SERVICE

(In thousands of dollars)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
ALABAMA																	
Maximum Federal-Aid Payments for Debt Service	\$3,172	\$17,025	\$17,156	\$17,270	\$17,408	\$17,550	\$17,629	\$17,671	\$17,722	\$17,812	\$17,915	\$17,994	\$18,082	\$18,201	\$18,358	\$18,556	
*Annual Federal-Aid Apportionments (Based on FY 2002 Levels)	\$554,229	\$57,0856	\$587,982	\$605,621	\$623,790	\$642,503	\$661,779	\$681,632	\$702,081	\$723,143	\$744,838	\$767,183	\$790,198	\$813,904	\$838,321	\$863,471	
Estimated Federal-Aid Payments of Debt Service as Percentage of Apportionments	0.6%	3.0%	2.9%	2.9%	2.8%	2.7%	2.7%	2.6%	2.6%	2.5%	2.5%	2.4%	2.3%	2.3%	2.2%	2.1%	
ARIZONA																	
Maximum Federal-Aid Payments for Debt Service	\$10,181	\$21,833	\$44,243	\$54,401	\$41,749	\$38,308	\$38,308	\$38,308	\$38,308	\$38,308	\$38,308	\$38,308	\$38,308	\$38,308	\$38,308	\$38,308	
*Annual Federal-Aid Apportionments (Based on FY 2002 Levels)	\$481,716	\$496,167	\$511,052	\$526,384	\$542,175	\$558,441	\$575,194										
Estimated Federal-Aid Payments of Debt Service as Percentage of Apportionments	2.1%	4.4%	8.7%	10.3%	7.7%	6.9%	1.4%										
ARKANSAS**																	
Maximum Federal-Aid Payments for Debt Service	\$0	\$2,000	\$18,000	\$58,000	\$58,000	\$58,000	\$58,000	\$58,000	\$58,000	\$58,000	\$58,000	\$58,000	\$58,000	\$58,000	\$58,000	\$58,000	
*Annual Federal-Aid Apportionments (Based on FY 2002 Levels)	\$359,712	\$370,503	\$391,618	\$393,087	\$404,659	\$417,005	\$429,515	\$442,400	\$455,672	\$468,343	\$483,423	\$497,926	\$512,863				
Estimated Federal-Aid Payments of Debt Service as Percentage of Apportionments	0.0%	0.8%	4.7%	14.8%	14.3%	13.9%	13.5%	13.5%	13.5%	12.7%	12.4%	12.0%	11.6%	11.3%			
COLORADO																	
Maximum Federal-Aid Payments for Debt Service	\$35,570	\$34,171	\$35,358	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	
*Annual Federal-Aid Apportionments (Based on FY 2002 Levels)	\$347,188	\$357,604	\$368,332	\$379,382	\$380,764	\$402,486	\$414,561	\$426,998	\$439,808	\$453,002	\$466,592	\$480,590	\$495,008	\$509,858	\$525,154		
Estimated Federal-Aid Payments of Debt Service as Percentage of Apportionments	10.2%	9.6%	9.6%	17.1%	16.6%	16.1%	15.7%	15.2%	14.8%	14.3%	13.9%	13.5%	13.1%	9.2%	2.9%		
NEW MEXICO***																	
Maximum Federal-Aid Payments for Debt Service	\$9,470	\$9,456	\$9,466	\$9,455	\$9,446	\$9,436	\$9,415	\$9,401	\$9,394	\$9,384	\$9,354	\$9,339	\$9,350	\$9,315	\$9,329		
*Annual Federal-Aid Apportionments (Based on FY 2002 Levels)	\$265,905	\$273,882	\$282,099	\$290,562	\$299,278	\$308,257	\$317,504	\$327,030	\$336,840	\$346,946	\$357,354	\$368,075	\$379,117	\$390,480	\$402,205		
Estimated Federal-Aid Payments of Debt Service as Percentage of Apportionments	3.6%	3.5%	3.4%	3.3%	3.2%	3.1%	3.0%	2.9%	2.8%	2.7%	2.6%	2.5%	2.4%				
OHIO																	
Maximum Federal-Aid Payments for Debt Service	\$27,632	\$28,181	\$27,603	\$26,970	\$26,359	\$25,721	\$25,083	\$15,780									
*Annual Federal-Aid Apportionments (Based on FY 2002 Levels)	\$947,731	\$976,163	\$1,005,448	\$1,035,612	\$1,066,680	\$1,098,680	\$1,131,641	\$1,165,590									
Estimated Federal-Aid Payments of Debt Service as Percentage of Apportionments	2.9%	2.9%	2.7%	2.6%	2.5%	2.3%	2.2%	1.4%									

*Note: Based on Total Apportionments of Federal-Aid Highway Funds to State in Fiscal Year 2002. Future apportionments depend on future Congressional action. The user can alter the cell C42, if desired, to adjust the estimated annual percentage increase in apportionment levels. Apportionment amounts are only included to provide a general picture of the percentage of a state's Federal-aid funding that debt service may require. Levels of state transportation funding vary significantly, and could affect this analysis. For example, a state might choose to borrow a higher percentage of its Federal-aid apportionments, but choose to use its state transportation funding on a pay-as-you-go basis. Thus, these percentages should not be regarded as a valid indicator of a state's relative level of total indebtedness compared to other states, only as an indicator of level of Federal-aid funds used for debt service.

**Arkansas must use a 4¢ state diesel tax to make debt service payments, thus, need for Federal-aid payments may be reduced in future years.

***New Mexico also had an additional \$18 million bond issuance, but it is being repaid by Federal-land highway funds, and thus is not included in this category.
Assumed annual percentage increase in apportionments (to be adjusted by user) 3.0%

Financing Mechanisms Available Under Current Law

Transportation Infrastructure Financing Alternatives Committee

September 26, 2002

This paper provides background on those financing mechanisms available to state government under current law for funding major transportation infrastructure projects. Available funding mechanisms fall into four general categories:

- Tax-backed Bonds;
- Revenue Bonds;
- Certificates of Participation; and
- Private financing, or a combination of public and private financing.

I. Tax-Backed Bonds

For purposes of transportation financing, the discussion of government bonds will focus on bonds supported by the motor vehicle fuel tax (gas tax). Gas tax bonds in Washington are often referred to as "double-barreled bonds". So-called because they have two sources of tax backing. The bonds are primarily backed by state gas tax revenues. Should gas tax revenues prove to be inadequate, the bonds are also backed by the full faith and credit of the state. This means that the bondholders could look to the general fund for satisfaction of the bond debt.

Article VIII, section 1(i) of the Washington State Constitution requires a 60% majority vote in each house of the Legislature to authorize bond issuance. Once the indebtedness has been authorized, the state Finance Committee determines the terms and conditions of the sale. A sale cannot go forward without the approval of the Finance Committee.

Gas tax bonds are not subject to the constitutional or statutory debt limit, *See Washington State Constitution Art. VIII, §1(g)*. As the debt to revenue ratio increases, however, consideration of the amount of gas tax revenue tied up in debt service could negatively impact interest rates. Currently between 30 and 35% of the state gas tax revenues¹ are pledged for bonds. Not all of those bonds have been issued.

Tax-backed bonds fall into two general categories: serial bonds and capital appreciation bonds.

¹"State gas tax revenues" here refers to the remainder of gas tax collections remaining to the state after statutory distributions and refunds.

Serial bonds are the most common instrument. These are usually sold for a 25 year term with principal and interest payments made throughout the term. Capital appreciation or "zero coupon" bonds are sold for varying terms and do not require periodic payments. Instead, the principal and interest are payable in full at the maturation date. In the absence of a gas tax appropriation, zero coupon bonds are used to cover the debt service on a toll project for the period between when construction begins and when tolls can first be charged.

Another tax- backed bond mechanism available is the "garvee" bond. A garvee bond borrows against federal fuel tax revenues. The federal government appropriates federal gas tax revenues to the states six years at a time. A free-standing or "naked" garvee bond can be very expensive because of the lack of a concrete pledge of federal gas tax dollars more than six years out. This state has not opted to issue garvee bonds.

II. Revenue Bonds

Revenue bonds are payable solely from revenue from a specific source or pooled revenue from various sources. Revenue bonds may be project based, i.e. the Hood Canal floating bridge, or tax based, such as project oriented taxes levied to finance a convention center. Revenue bonds are not backed by the gas tax or the full faith and credit of the state.

RCW 47.60.060, first enacted in 1949, authorizes the department of transportation to issue revenue bonds for ferries or toll bridges. The bonds are not general obligations of the state and are payable only from revenues of the project financed. The state used this mechanism for funding toll bridges in the past, such as the Hood Canal toll bridge. When the department of Transportation was formed in the 1970's, revenue bond debt was reissued as full faith and credit debt. Since that time no State transportation projects have been financed solely with revenue bonds.

The Tacoma Narrows Bridge project incorporates tolls, but the bonds are not revenue bonds. The bonds are backed by the gas tax and the full faith and credit of the state. From a budget perspective, the bonds will be paid off from toll proceeds. From an investor's perspective, that is irrelevant. The bonds ultimately rest on the full faith and credit of the state. For this reason the Tacoma Narrows Bridge bonds have been sold at tax-backed bonds interest rates rather than revenue bond interest rates.

III. Certificates of Participation

Certificates of participation (COPs) can also be used for some capital projects. Under a COP, the holders of the COPs are represented by a trustee who holds an underlying ground lease on the property. At the end of the lease term the state takes ownership of the asset, usually for a nominal fee. A recent example is the Department of Ecology building constructed in Lacey. In entering into the agreement, the state is making a pledge of future appropriations, which is distinct from a pledge of revenues. If the state defaults, i.e. refuses to appropriate sufficient funds to cover the lease payment, the trustee can operate the facility. Unlike bond holders, the trustee does not have the right to sue the state to compel payment.

Theoretically, a COP could be used to finance a toll road or bridge. The COPs would be backed solely by revenue from the facility. The trustee would have the right to operate the facility in the event of default. Obviously the prospect of a private entity taking over and operating a portion of the public highway system raises legal and policy issues about the viability or advisability of such a scheme.

IV. Private Financing

Under current law, public financing is only authorized for projects built under the Public Private Initiatives in Transportation act (PPI). Chapter 47.46 RCW authorized full or partial private financing for transportation projects built under the PPI law. No additional projects may be built under the PPI law unless that law is amended.

Some issues to consider when contemplating private financing:

- Private bonds do not constitute public debt and thus do not encumber state revenues.
- Private bonds are, generally, more expensive than public debt. It is difficult to beat the full faith and credit of the state as a guarantee of payment.
- Private bonds often entail additional financing costs, including:
 - Coverage factor: tolls set high enough to provide to ensure that debt service payments can be met even if traffic falls short on projections;
 - Contingency reserves: bondholders often require establishing contingency reserves to meet unexpected costs arising during construction. Establishing contingency reserves requires selling additional bonds at the start of the project to establish the reserves.